

PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

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TRANSMITTAL FORM

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Total Number of Pages in This Submission

| | | | |
|---|------------------------|--------------|---------|
| | Application Number | 10/709,940 | 7026234 |
| | Filing Date | 06/08/2004 | |
| | First Named Inventor | Jui-Meng Jao | |
| | Art Unit | 2891 | |
| | Examiner Name | Anya, Igwe U | |
| 8 | Attorney Docket Number | NAUP0480USA | |

| ENCLOSURES (Check all that apply) | | | |
|---|--|--|---|
| <input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input checked="" type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please Identify below): | 1. A copy of front page of Patent 2. A copy of filing receipt 3. A copy of Foreign Priority showed on the PAIR system |
| <input type="checkbox"/> Remarks | | | |

*Certificate
APR 27 2006
of Correction*

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

| | | | |
|--------------|---|----------|--------|
| Firm Name | North America Intellectual Property Corporation | | |
| Signature | <i>Winston Hsu</i> | | |
| Printed name | Winston Hsu | | |
| Date | APR 24 2006 | Reg. No. | 41,526 |

CERTIFICATE OF TRANSMISSION/MAILING

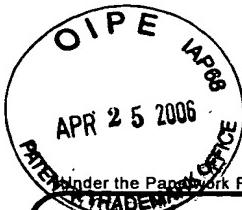
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| | | | |
|-----------------------|----------------------|------|-------------|
| Signature | <i>Stephanie Lai</i> | | |
| Typed or printed name | Stephanie Lai | Date | APR 24 2006 |

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MAY 01 2006



PTO/SB/17 (12-04v2)

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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL

For FY 2005

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) **0.00**

| Complete if Known | |
|--------------------------|--------------|
| Application Number | 10/709,940 |
| Filing Date | 06/08/2004 |
| First Named Inventor | Jui-Meng Jao |
| Examiner Name | Anya, Igwe U |
| Art Unit | 2891 |
| Attorney Docket No. | NAUP0480USA |

METHOD OF PAYMENT (check all that apply)

- Check Credit Card Money Order None Other (please identify): _____
- Deposit Account Deposit Account Number: **50-3105** Deposit Account Name: North America Intellectual Property Corporation
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FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES****FILING FEES**

| Application Type | Small Entity | | SEARCH FEES | | EXAMINATION FEES | | Fees Paid (\$) |
|-------------------------|---------------------|-----------------|---------------------|-----------------|-------------------------|-----------------|-----------------------|
| | Fee (\$) | Fee (\$) | Small Entity | Fee (\$) | Fee (\$) | Fee (\$) | |
| Utility | 300 | 150 | 500 | 250 | 200 | 100 | _____ |
| Design | 200 | 100 | 100 | 50 | 130 | 65 | _____ |
| Plant | 200 | 100 | 300 | 150 | 160 | 80 | _____ |
| Reissue | 300 | 150 | 500 | 250 | 600 | 300 | _____ |
| Provisional | 200 | 100 | 0 | 0 | 0 | 0 | _____ |

2. EXCESS CLAIM FEES**Fee Description**

Each claim over 20 (including Reissues)

Each independent claim over 3 (including Reissues)

Multiple dependent claims

| Total Claims | Extra Claims | Fee (\$) | Fee Paid (\$) | Small Entity | |
|---------------------|---------------------|-----------------|----------------------|---------------------|-----------------|
| | | | | Fee (\$) | Fee (\$) |
| - 20 or HP = | x | = | | 50 | 25 |

HP = highest number of total claims paid for, if greater than 20.

| Indep. Claims | Extra Claims | Fee (\$) | Fee Paid (\$) | Multiple Dependent Claims | |
|----------------------|---------------------|-----------------|----------------------|----------------------------------|----------------------|
| | | | | Fee (\$) | Fee Paid (\$) |
| - 3 or HP = | x | = | | | |

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

| Total Sheets | Extra Sheets | Number of each additional 50 or fraction thereof | Fee (\$) | Fee Paid (\$) |
|---------------------|---------------------|---|-----------------|----------------------|
| - 100 = | / 50 | (round up to a whole number) | x | = |

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): _____

Fees Paid (\$)

| SUBMITTED BY | | Registration No. | Telephone |
|---------------------|--------------------|-------------------------|------------------|
| Signature | <i>Winston Hsu</i> | (Attorney/Agent) 41,526 | 3027291562 |
| Name (Print/Type) | Winston Hsu | Date | APR 24 2006 |

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MAY 01 2006



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No. : 7,026,234 B2 Issue Date : Apr. 11, 2006
Serial No. : 10/709,940 Filing Date : Jun. 8, 2004
Inventor : Jui-Meng Jao et al.
Docket No. : NAUP0480USA

Title: PARASITIC CAPACITANCE-PREVENTING DUMMY SOLDER BUMP
STRUCTURE AND METHOD OF MAKING THE SAME

To: Commissioner for Patents
P.O. BOX 1450
Alexandria, VA 22313-1450

Subject: Request for Certificate of Correction of Office Mistake

The above-identified patent was issued on 04/11/2006. The applicant found out that the Foreign Application Priority Data was missed on the front page of the patent (Attachment 1). Documents on record indicate this as an Office mistake of consequence.

The applicant submitted priority document and claimed for foreign priority on 06/08/2004. The Foreign Applications data listed on the filing receipt dated 07/15/2004 (Attachment 2) and the Foreign Priority showed on the PAIR system (Attachment 3) indicate that the PTO received these documents indeed.

The applicant hereby requests that a Certificate of Correction be issued under 37 CFR 1.322 to supplement the Foreign Application Priority Data (Taiwan patent application no. 092117491 dated 06/26/2003).

MAY 01 2006

Respectfully submitted,

Winston Hsu

Date: APR 24 2006

Winston Hsu, Patent Agent No. 41,526

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MAY 01 2006



US007026234B2

(12) United States Patent
Jao et al.(10) Patent No.: US 7,026,234 B2
(45) Date of Patent: Apr. 11, 2006

(54) PARASITIC CAPACITANCE-PREVENTING DUMMY SOLDER BUMP STRUCTURE AND METHOD OF MAKING THE SAME

(56)

References Cited

(75) Inventors: Jui-Meng Jao, Miao-Li Hsien (TW); Shing-Ren Sheu, Tao-Yuan (TW); Kuo-Ming Chen, Hsin-Chu Hsien (TW); Hung-Min Liu, Hsin-Chu (TW); Kun-Chih Wang, Hsin-Chu (TW)

(73) Assignee: United Microelectronics Corp., Hsin-Chu (TW)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 57 days.

(21) Appl. No.: 10/709,940

(22) Filed: Jun. 8, 2004

(65) Prior Publication Data

US 2004/0266160 A1 Dec. 30, 2004

(51) Int. Cl.

H01L 21/44 (2006.01)*H01L 29/40* (2006.01)

(52) U.S. Cl. 438/613; 438/612; 438/614; 438/622; 438/623; 438/624; 438/626; 257/707; 257/737; 257/738; 257/778; 257/780; 257/758

(58) Field of Classification Search 438/613, 438/614, 622, 623, 624, 626, 612; 257/758, 257/707, 737, 738, 778, 780

See application file for complete search history.

No Foreign Application
Priority Data

U.S. PATENT DOCUMENTS

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* cited by examiner

Primary Examiner—B. William Baumeister

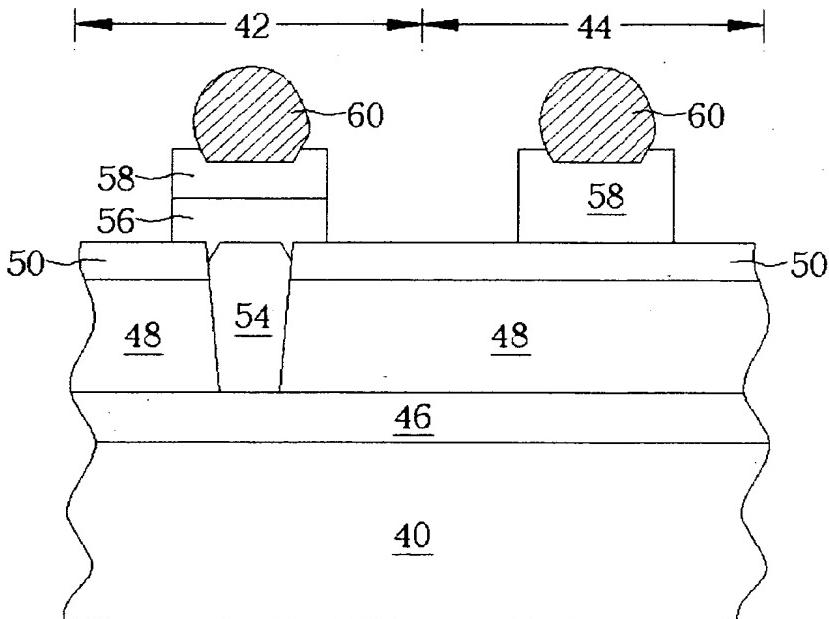
Assistant Examiner—Igwe U. Anya

(74) Attorney, Agent, or Firm—Winston Hsu

(57) ABSTRACT

A parasitic capacitance-preventing dummy solder bump structure on a substrate has at least one conductive layer formed on the substrate, a dielectric layer employed to cover the conductive layer, an under bump metallurgy layer (UBM layer) formed on the dielectric layer, and a solder bump formed on the UBM layer.

17 Claims, 9 Drawing Sheets



Attachment >

Page 1 of 2



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| APPL NO. | FILING OR 371 (c) DATE | ART UNIT | FIL FEE REC'D | ATTY.DOCKET NO | DRAWINGS | TOT CLMS | IND CLMS |
|------------|---------------------------|----------|---------------|----------------|----------|----------|----------|
| 10/709,940 | 06/08/2004 | 2812 | 770 | NAUP0480USA | 9 | 17 | 2 |

027765
NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE)
P.O. BOX 506
MERRIFIELD, VA 22116

CONFIRMATION NO. 3939

FILING RECEIPT



OC000000013237866



Date Mailed: 07/15/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Jui-Meng Jao, Miao-Li Hsien, TAIWAN;
Shing-Ren Sheu, Tao-Yuan City, TAIWAN;
Kuo-Ming Chen, Hsin-Chu Hsien, TAIWAN;
Hung-Min Liu, Hsin-Chu City, TAIWAN;
Kun-Chih Wang, Hsin-Chu City, TAIWAN;

Domestic Priority data as claimed by applicant

Foreign Applications

TAIWAN 092117491 06/26/2003

If Required, Foreign Filing License Granted: 07/14/2004

Projected Publication Date: 12/30/2004

Non-Publication Request: No

Early Publication Request: No

Title

PARASITIC CAPACITANCE-PREVENTING DUMMY SOLDER BUMP STRUCTURE AND

METHOD OF MAKING THE SAME

Preliminary Class

438

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Title 37, Code of Federal Regulations, 5.11 & 5.15**

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Printer Friendly

10/709,940

PARASITIC CAPACITANCE-PREVENTING DUMMY SOLDER BUMP STRUCTURE AND METHOD OF

MAKING THE SAME

Foreign Priority

| Foreign Priority | | |
|------------------|-----------|---------------|
| Country | Priority | Priority Date |
| TAIWAN | 092117491 | 06-26-2003 |

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